

Wisconsin Geological and Natural History Survey
Bulletin 99
Pleistocene Geology of Waukesha County, Wisconsin
Plate 1

Lee Clayton

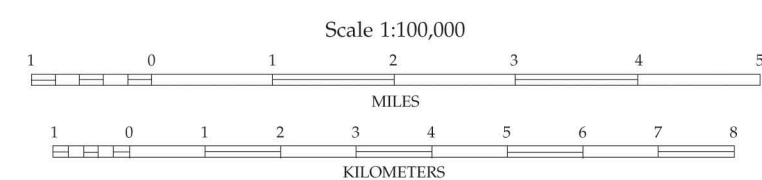
2001

The colors used on this map indicate the general environments of deposition of the surface sediment. Greens indicate glacial sediment (till); reds, stream sediment; and blues, offshore lake sediment. The environment of deposition is indicated by the first part of the letter symbol: **o** for offshore sediment, **s** for stream sediment, and **g** for glacial sediment.



Explanation

- op** Offshore sediment of Holocene lakes. Typically as much as a few meters of offshore sand, silt, clay, and marl, overlain by 1 m to a few meters of peat; generally found in flat lowland bogs, marshes, and swamps, where the water table is at or near the surface. In some areas, the peat is no longer present because it has been mined or was removed during construction of roads, industrial subdivisions, and so forth.
- on** Offshore sediment of Pleistocene lakes. Largely sand near the shoreline, grading to silt and clay where deposited in deeper water; typically between 1 m and tens of meters thick.
- ou** Offshore sediment of Pleistocene nonglacial lakes in bowl-shaped collapse depressions.
- ou** Uncollapsed offshore sediment of proglacial lakes deposited on solid ground; has flat topography.
- oc** Collapsed offshore sediment of proglacial lakes deposited on stagnant glacial ice, resulting in hummocky topography when the ice melted.
- oi** Offshore sediment of ice-walled lakes.
- sm** Modern stream sediment. Commonly consists of a few meters of channel sand or gravelly sand, generally overlain by no more than a few meters of overbank silt and clay, in places overlain by thin peat. Occupies floodplains of modern rivers; water table generally near the surface; generally underlain by Pleistocene stream or lake sediment; includes fans of sediment washed onto edges of the floodplain from adjacent uplands.
- su** Sediment deposited by braided meltwater streams flowing from the Green Bay and Lake Michigan Lobes of the Laurentide Ice Sheet during the Wisconsin Glaciation. Slightly gravelly sand, gravelly sand, and sandy gravel, which is obscurely bedded, plane bedded, or cross-bedded; as much as tens of meters thick in some areas; most is in the Holy Hill Formation. Unit **su**: Uncollapsed meltwater-stream sediment deposited on solid ground; has flat topography with braided channel scars. Unit **sc**: Collapsed meltwater-stream sediment deposited on stagnant glacial ice, resulting in hummocky topography when the ice melted.
- go** Various materials in steep hillslopes gullied during postglacial time. Typically around the shoulders of drumlinized uplands; till and a variety of other material exposed in the top parts of slopes; fans of alluvial and other hillslope material deposited on the lower parts of the slopes.
- gh** Sandy till of the Holy Hill Formation deposited by the Green Bay and Lake Michigan Lobes of the Laurentide Ice Sheet during the last part of the Wisconsin Glaciation. Includes till of the Horicon and New Berlin Members. Unit **gh**: Generally has low-relief, nondescript topography in areas lacking drumlins or moraines. Unit **ghk**: Has hummocky topography and patches of collapsed meltwater-stream sediment in the Kettle Moraine.
- go** Silty till of the Oak Creek Formation deposited by the Lake Michigan Lobe of the Laurentide Ice Sheet during the last part of the Wisconsin Glaciation.



This map is an interpretation of the data available at the time of preparation. Every reasonable effort has been made to ensure that this interpretation conforms to sound scientific and cartographic principles; however, the map should not be used to guide site-specific decisions without verification. Proper use of the map is the sole responsibility of the user.

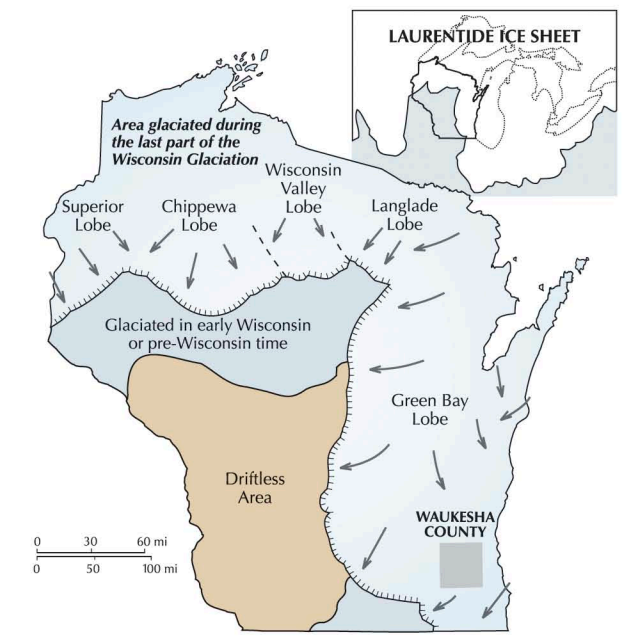
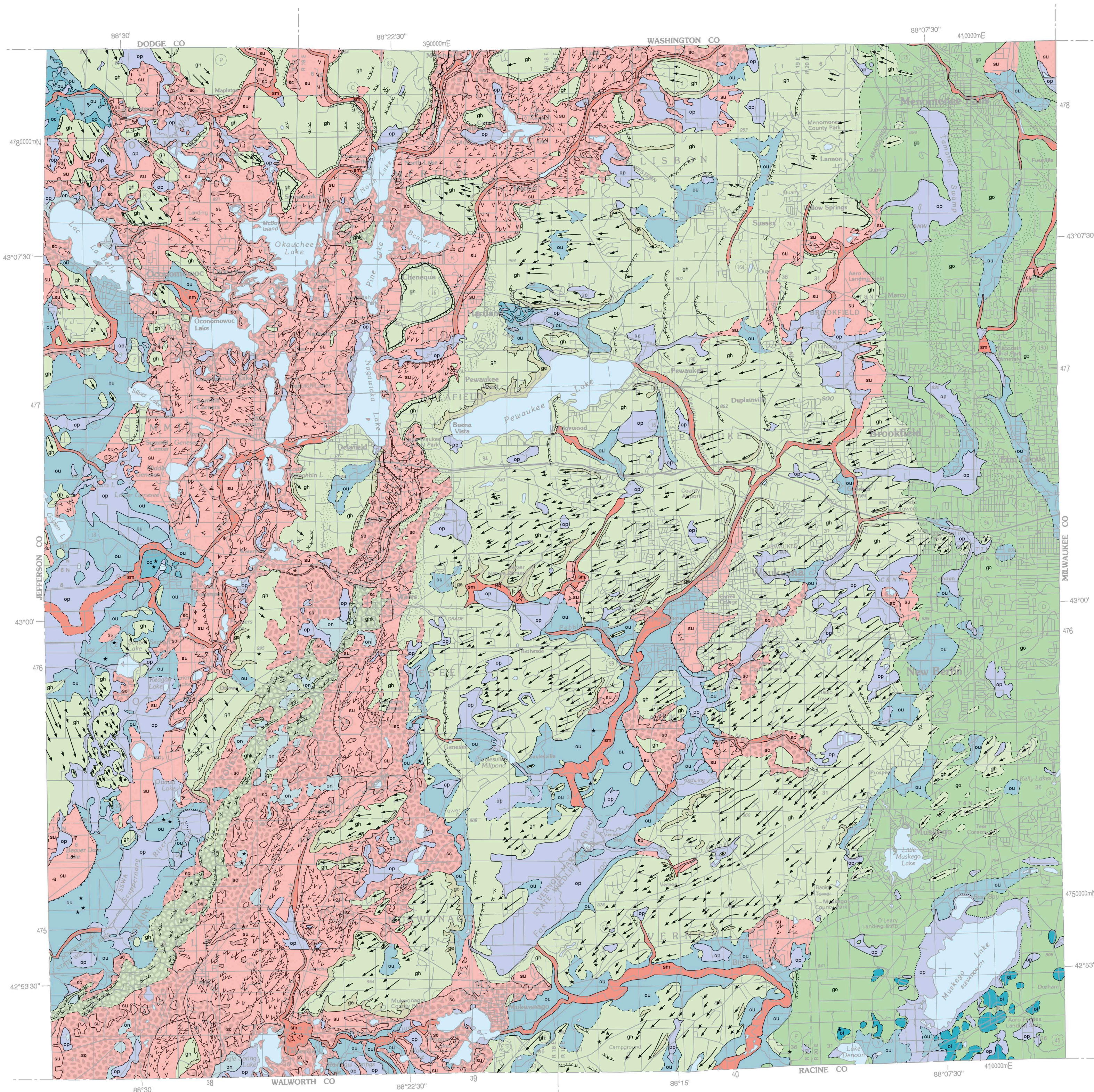


Figure 1. Location of Waukesha County in Wisconsin in relation to the Laurentide Ice Sheet and its lobes during the last part of the Wisconsin Glaciation. Hatchures indicate the edge of the ice sheet; arrows indicate direction of ice flow.

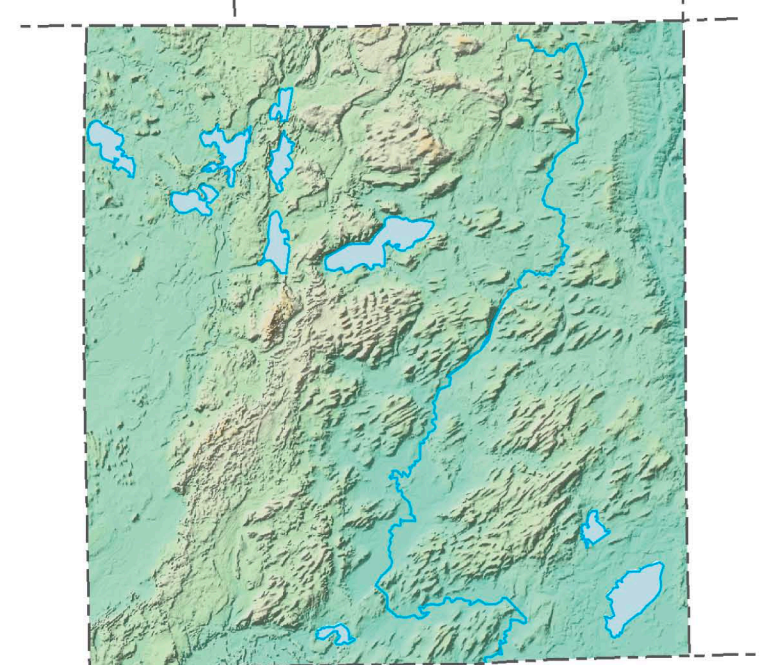


Figure 2. Relief map of Waukesha County (scale 1:500,000).

Symbols

- Drumlins
- Ice-contact faces
- Beach ridges and wave-cut scarps
- Moraine ridges narrower than about 200 m
- Moraine ridges broader than about 200 m
- Low cutbanks, from approximately 5 to 15 m high
- High cutbanks, more than 15 m high
- Direction of meltwater flow, interpreted from channel scars (arrowheads without stems) or from the slope of land (arrowheads with short stems)
- Ice-wedge polygons. Each symbol indicates a group of polygons visible on aerial photographs; each polygon is tens of meters across.
- Geologic contact. Solid where position shown on the map is generally within 0.1 km of the true position; dashed where position shown is commonly more than 0.1 km from the true position.

Extension

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Digital cartography and editing by D.L. Patterson.

Base map constructed from U.S. Geological Survey Digital Line Graph files (1990, scale 1:100,000), modified by Wisconsin Department of Natural Resources (1992) and Wisconsin Geological and Natural History Survey (2000). Physiography for figure 2 derived from U.S. Geological Survey 7.5-minute, 30-meter digital elevation model data.

PLATE 1. PLEISTOCENE GEOLOGIC MAP OF WAUKESHA COUNTY, WISCONSIN.